Claims

[c1]   What is claimed is:

1. A video processing method for processing blocking artifacts between two blocks within a video picture, the video processing method comprising:

storing pixel values corresponding to the two blocks; and

comparing two boundary edge pixels adjacent to a boundary between the two blocks according to a first threshold to determine if the pixel values of the two boundary edge pixels should be adjusted, if a difference corresponding to the pixel values of the two boundary edge pixels meets a requirement of the first threshold, adjusting the pixel values of the two boundary edge pixels to decrease the difference.

[c2]   2. The video processing method of claim 1, wherein the difference is a luminance difference or a chromatic difference.

[c3]   3. The video processing method of claim 1 further comprising:

comparing one pixel out of the two boundary edge pixels with an interior edge pixel adjacent to the one pixel

according to a second threshold to determine if the pixel values of the two boundary edge pixels should be adjusted.

[c4]   4. The video processing method of claim 3 further comprising:

comparing an adjusted pixel out of the two boundary edge pixels with an interior edge pixel adjacent to the adjusted pixel according to a third threshold to determine if the pixel value of the interior edge pixel should be adjusted.

[c5]   5. The video processing method of claim 4, wherein the third threshold is equal to the first threshold.

[c6]   6. The video processing method of claim 4, wherein an adjustment amount of the pixel value of the interior edge pixel is one half of an adjustment amount of the pixel value of the adjusted boundary edge pixel.

[c7]   7. The video processing method of claim 1 further comprising:

when a difference between two quantization parameters of the two blocks increases, increasing the first threshold; and

when the difference between the two quantization parameters decreases, decreasing the first threshold.

[c8]   8. The video processing method of claim 1 further comprising:
when a just noticeable difference defined according to Weber's Law increases, increasing the first threshold; and when the just noticeable difference decreases, decreasing the first threshold.

[c9]   9. The video processing method of claim 1, wherein the first threshold is a just noticeable difference defined according to Weber's Law.

[c10]   10. The video processing method of claim 1 being a loop filtering method of a video encoding process or a video decoding process.

[c11]   11. A loop filter of a video processing system for processing blocking artifacts between two blocks within a video picture, the loop filter comprising:
a storage unit for storing pixel values corresponding to the two blocks;
a comparison unit electrically connected to the storage unit for comparing two boundary edge pixels adjacent to a boundary between the two blocks according to a first threshold to determine if the pixel values of the two boundary edge pixels should be adjusted, if a difference corresponding to the pixel values of the two boundary

edge pixels meets a requirement of the first threshold, the comparison unit determining that the pixel values of the two boundary edge pixels should be adjusted to decrease the difference; and

an arithmetic unit electrically connected to the comparison unit and the storage unit for adjusting the pixel values of the two boundary edge pixels.

[c12] 12. The loop filter of claim 11, wherein the difference is a luminance difference or a chromatic difference.

[c13] 13. The loop filter of claim 11, wherein the comparison unit further compares one pixel out of the two boundary edge pixels with an interior edge pixel adjacent to the one pixel according to a second threshold to determine if the pixel values of the two boundary edge pixels should be adjusted.

[c14] 14. The loop filter of claim 13, wherein the comparison unit further compares an adjusted pixel out of the two boundary edge pixels with an interior edge pixel adjacent to the adjusted pixel according to a third threshold to determine if the pixel value of the interior edge pixel should be adjusted.

[c15] 15. The loop filter of claim 14, wherein the third threshold is equal to the first threshold.

[c16] 16. The loop filter of claim 14, wherein an adjustment amount of the pixel value of the interior edge pixel is one half of an adjustment amount of the pixel value of the adjusted boundary edge pixel.

[c17] 17. The loop filter of claim 11, wherein when a difference between two quantization parameters of the two blocks increases, the comparison unit increases the first threshold; and when the difference between the two quantization parameters decreases, the comparison unit decreases the first threshold.

[c18] 18. The loop filter of claim 11, wherein when a just noticeable difference defined according to Weber's Law increases, the comparison unit increases the first threshold; and when the just noticeable difference decreases, the comparison unit decreases the first threshold.

[c19] 19. The loop filter of claim 11, wherein the first threshold is a just noticeable difference defined according to Weber's Law.

[c20] 20. The loop filter of claim 11, wherein the video processing system is a video encoder or a video decoder.